

1 **ABSTRACT**

2 A photodetector comprises a semiconductor substrate with entrance and
3 reflecting faces formed at the substrate upper surface. The reflecting face forms an
4 acute angle with the substrate surface and is positioned so that an optical beam
5 transmitted through the entrance face into the substrate is internally reflected from the
6 reflecting face toward the substrate upper surface. A photodetector active region is
7 formed on the substrate upper surface and is positioned so that the reflected optical
8 beam impinges on the active region. The photodetector may be mounted on a second
9 substrate for receiving an optical beam from a planar waveguide formed on the second
10 substrate or an optical fiber mounted in a groove on the second substrate.

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